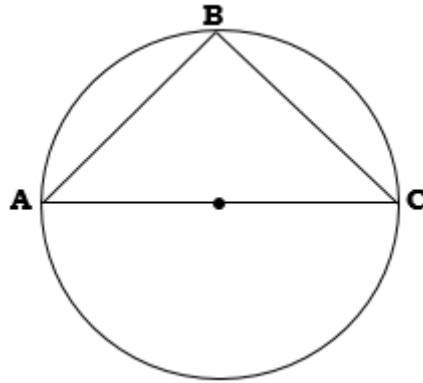


CIRCLE THEOREMS – PRACTICE QUESTIONS

1.

The line AC is a diameter of the circle.

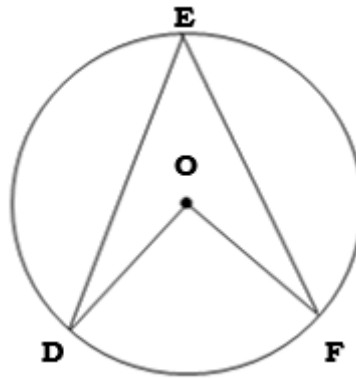


Find the size of angle ABC.

2.

O is the centre of the circle.

Angle DEF = 54° .

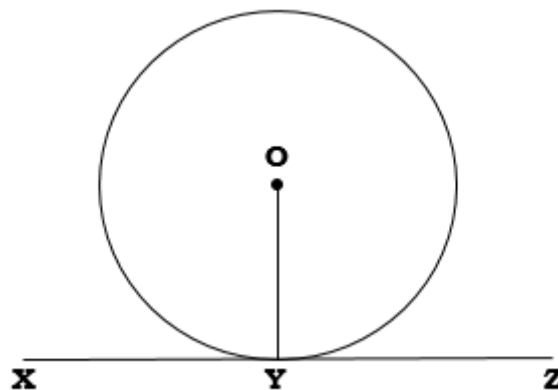


Find the size of angle DOF.

3.

O is the centre of a circle.

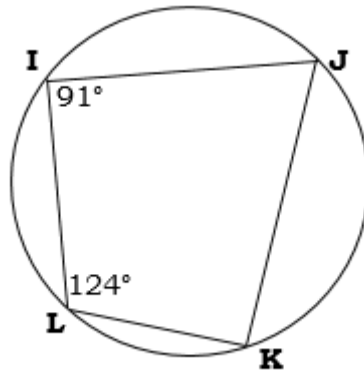
The line XYZ is a tangent to the circle.



Find the size of the angle OYZ.

4.

IJKL is a cyclic quadrilateral.



(a) Find the size of angle IJK.

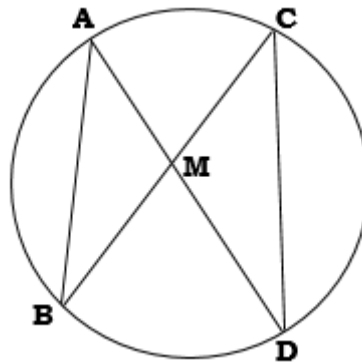
(b) Find the size of angle JKL.

5.

AMB and CMD are triangles.

Angle ABM = 39° .

Angle DCM = 42° .



(a) Find the size of angle MDC.

(b) Find the size of angle BAM.

6.

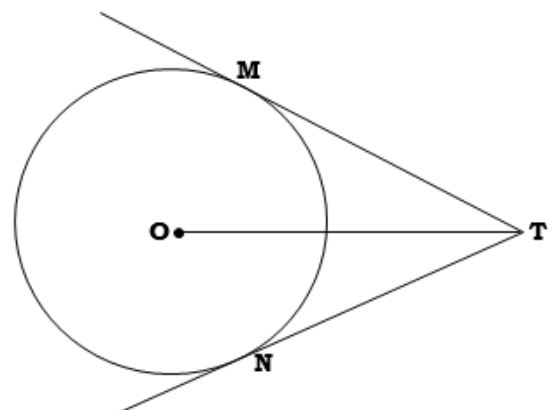
O is the centre of the circle.

Two tangents to the circle touch the circumference at points M and N.

T is the point where the two tangents meet.

Angle OTM = 51° .

Find the size of angle NTO.

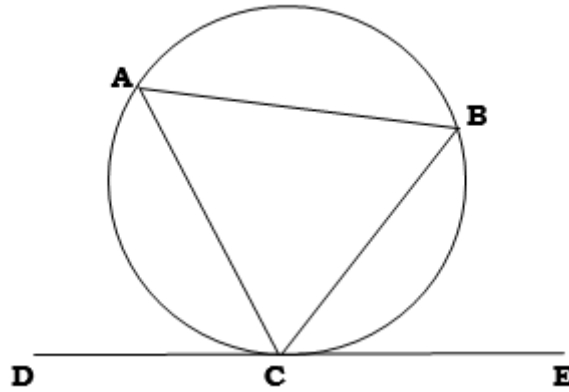


7.

The line DCE is a tangent to the circle.

Angle BCE = 61° .

Angle DCA = 68° .



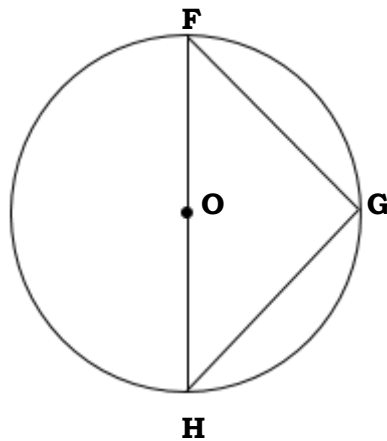
(a) Find the size of angle CAB.

(b) Find the size of angle ABC.

(c) Find the size of angle ACB.

8.

O is the centre of the circle.



(a) Find the size of angle FGH.

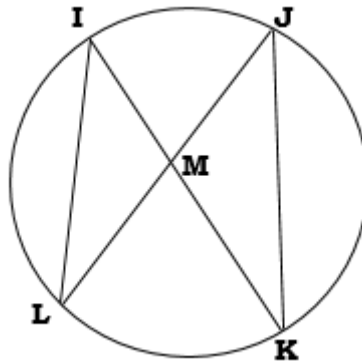
(b) Given that $FG = GH$, find the size of angle GFH.

9.

ILM and JKM are triangles.

Angle MJK = 33° .

Angle MLI = 47° .



(a) Find the size of angle LIM.

(b) Find the size of angle MKJ.

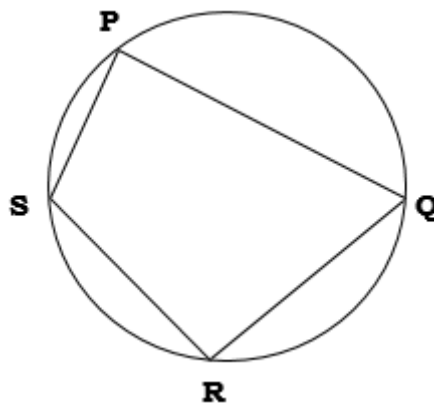
(c) Find the size of angle IML.

10.

PQRS is a cyclic quadrilateral.

Angle PQR = 78° .

Angle SRQ = 93° .

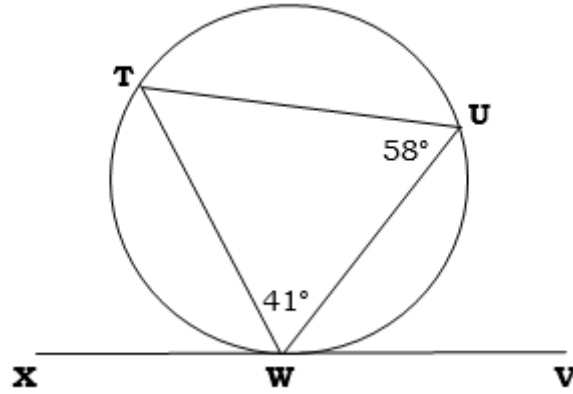


(a) Find the size of angle SPQ.

(b) Find the size of angle RSP.

11.

The line XWV is a tangent to the circle.



(a) Find the size of angle XWT .

(b) Find the size of angle UWV .

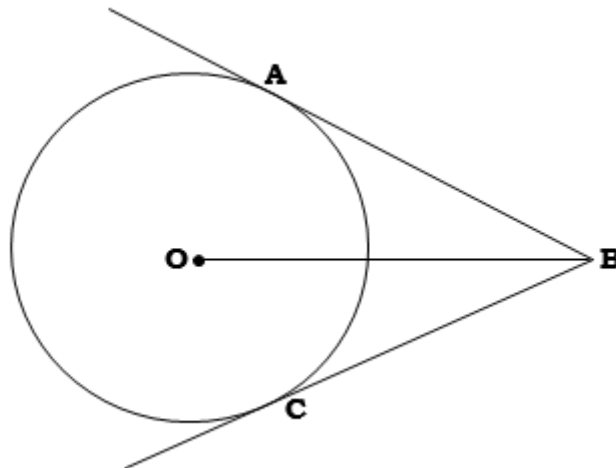
12.

O is the centre of the circle.

Two tangents to the circle touch the circumference at points A and C .

B is the point where the two tangents meet.

Angle $OBC = 44^\circ$.



(a) Find the size of angle ABO .

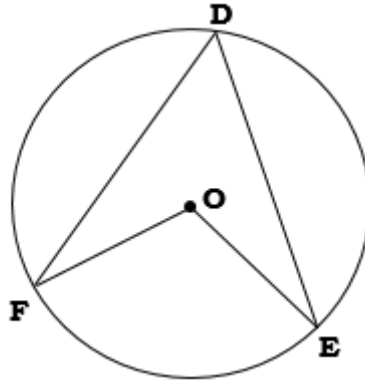
(b) Find the size of angle OCB .

(c) Find the size of angle COB .

13.

O is the centre of the circle.

Angle FOE = 118° .



(a) Find the size of angle FDE.

(b) Find the size of angle OEF.

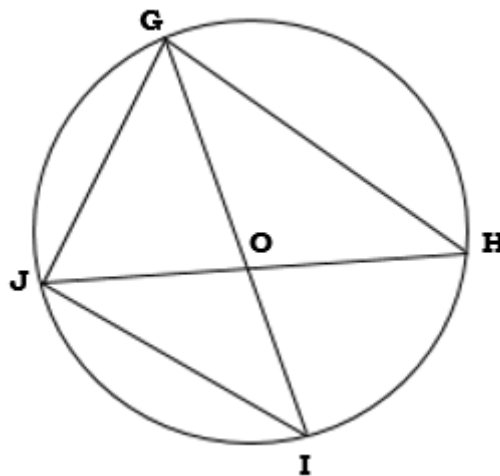
14.

GHO and JIO are triangles.

Angle OGH = 21° .

Angle OIJ = 42° .

Angle JGO = 33° .



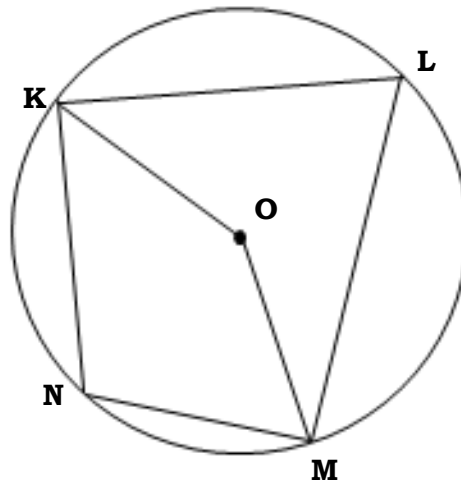
Find the size of angle GJO.

15.

KLMN is a cyclic quadrilateral.

O is the centre of the circle.

Angle KNM = 124° .



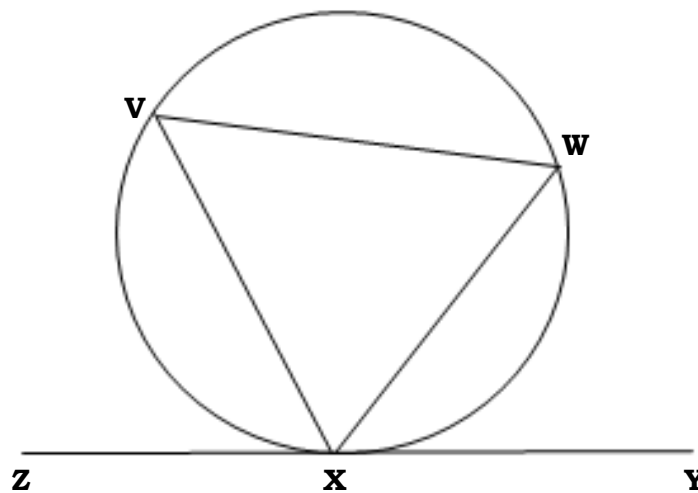
Find the size of angle KOM.

16.

ZXY is a tangent to the circle.

$VW = VX$.

Angle VWX = 47° .



Find the size of angle WXY.

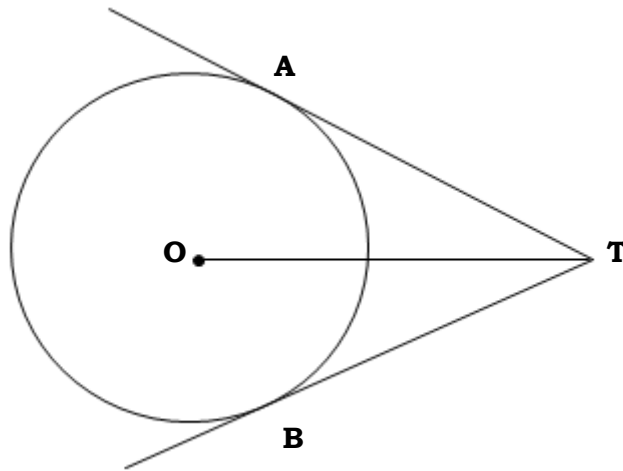
17.

O is the centre of the circle.

Two tangents to the circle touch the circumference at points A and B.

T is the point where the two tangents meet.

Angle AOT = 70° .



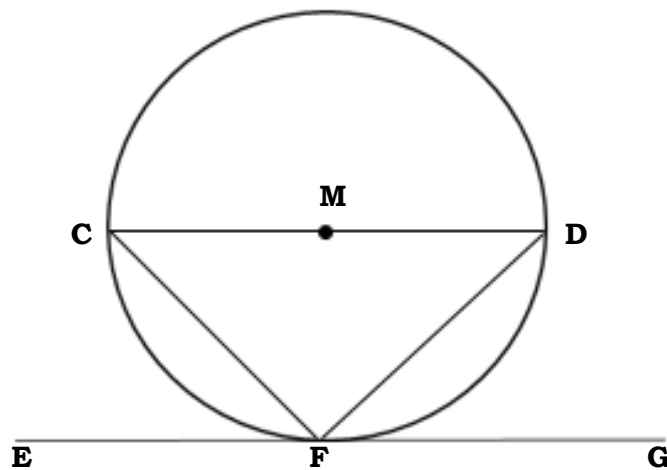
Find the size of angle ABT.

18.

M is the centre of a circle.

EFG is a tangent to the circle.

Angle CDF = 51° .



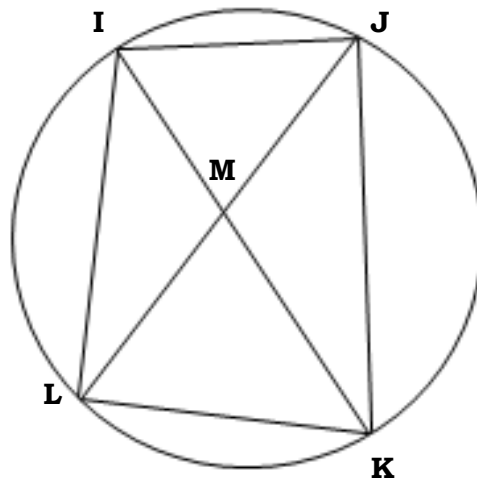
Find the size of angle DFG.

19.

IJKL is a cyclic quadrilateral.

Angle IML = 116° and Angle JKL = 88° .

IM = JM.



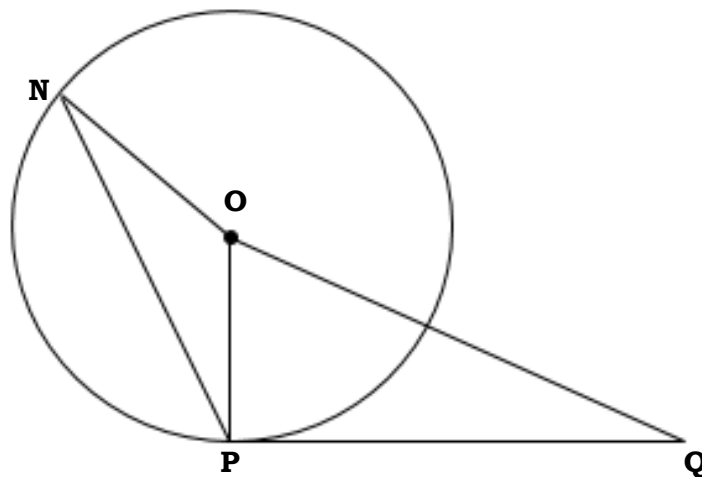
Find the size of angle JKI.

20.

The line PQ is a tangent to the circle.

O is the centre of the circle.

Angle NPQ = 121° .



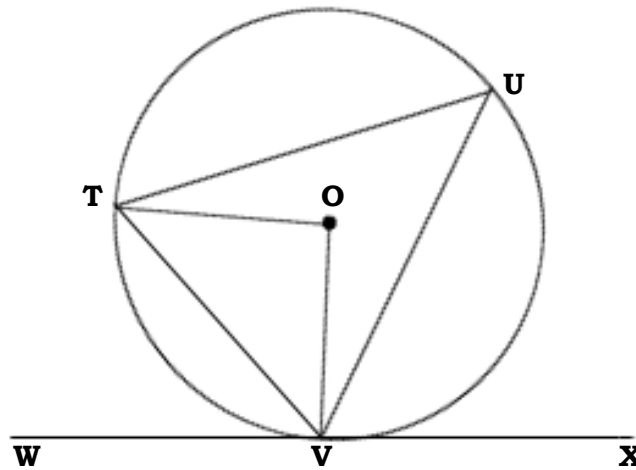
Find the size of angle NOP.

21.

WVX is a tangent to the circle.

O is the centre of the circle.

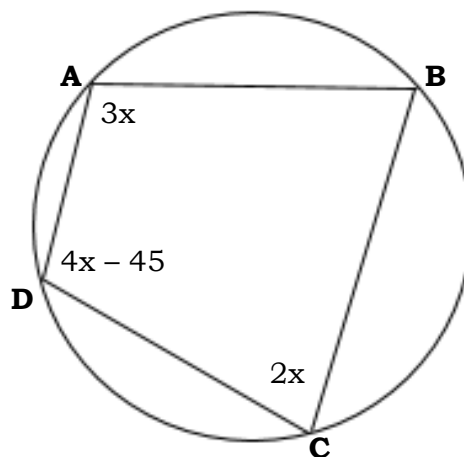
Angle TVW = 48° and Angle UTO = Angle OVU.



Find the size of angle UVX.

22.

ABCD is a cyclic quadrilateral.



Find the size of angle ABC.

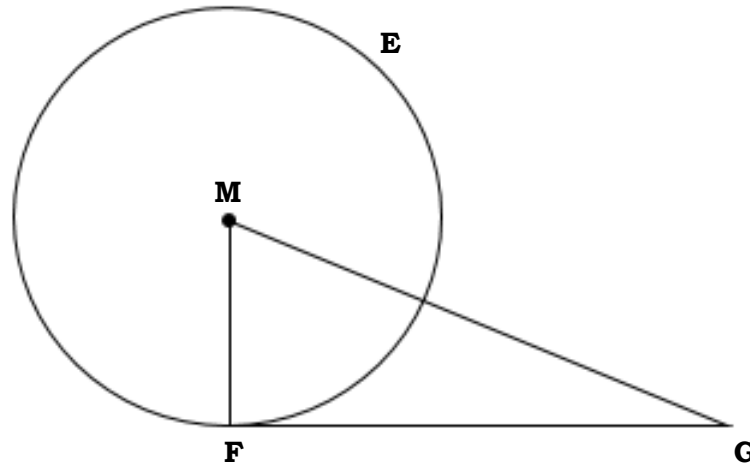
23.

FG is a tangent to the circle.

M is the centre of the circle.

E and F lie on the circumference of the circle.

Angle MGF = 41° .



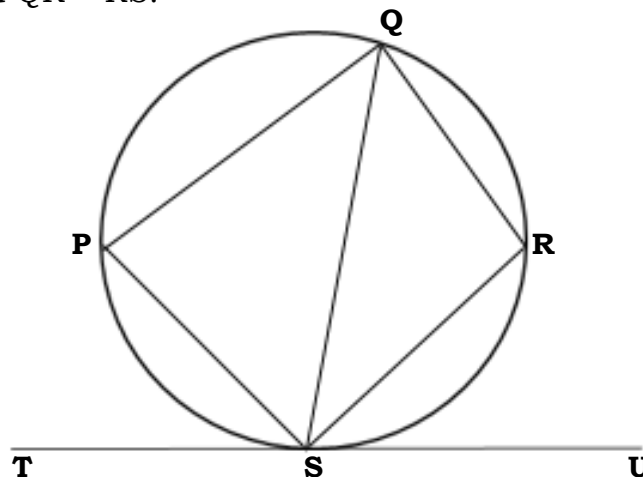
Find the size of angle MEF.

24.

TSU is a tangent to the circle.

PQRS is a cyclic quadrilateral.

Angle RSU = 46° and $QR = RS$.



Find the size of angle QPS.

25.

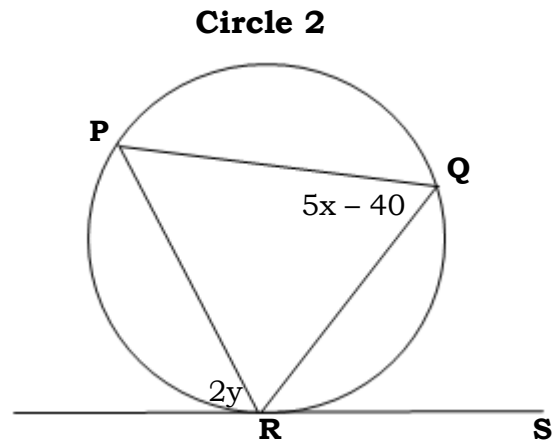
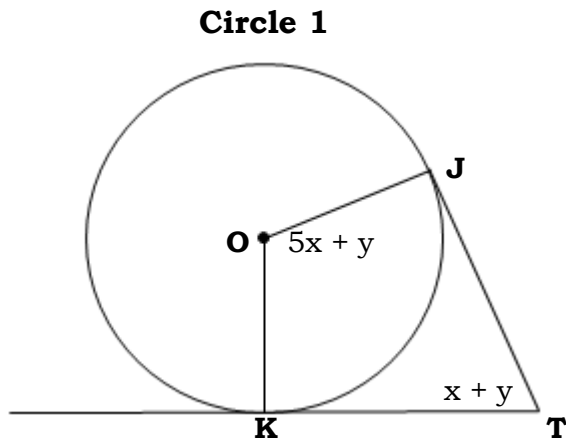
Picture below are two circles – Circle 1 and Circle 2.

O is the centre of Circle 1.

Two tangents to Circle 1 touch the circumference at points J and K.

T is the point where the two tangents meet.

RS is a tangent to Circle 2.



Find x and y.